CZECHOSLOVAKIA / Magnetism. Experimental Methods of Magnetism. F-2

Abs Jour : Ref Zhur - Fizika, No 3, 1957, 6828

Author : Rob Ladislav
Title : Nuclear Magnetometer

Orig Pub : Ceskosl. casop. fys., 1956, 6, No 3, 347 - 351

Abstract : Description of a magnetometer for a measurement range from one to ten kilogauss with an accuracy ± 2 x 10^{-3} percent, based on the phenomenon of nuclear induction.

Card : 1/1

OSTRETSOV, L.A.; KOVRIGIN, O.D.; LATYSHEV, G.D.; LEONOV, V.D., ~~V.D.~~; SHIRSHOV, N.M.

Measuring the lifetime of the 279 Kev level of Tl^{203} by the delayed coincidence method. Vest. AN Kazakh. SSR 16 no.9:72-78 S '60. (MIRA 13:9)

(Thallium--Isotopes) (Scintillation counters)

22852
S/031/61/000/001/002/003
A161/A129

9,2590

AUTHORS: Ostretsov, L.A., Kovrigin, O.D., Latyshev, G.D., Academician of the Academy of Sciences KazSSR; Leonov, V.D., Shirshov, N.M.

TITLE: Practical measurements of delay line parameters

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, no. 1, 1961, 29-33

TEXT: Delay lines are coming into extensive use in modern radio engineering. The authors used an alternating delay line for operation in a quick-slow coincidence circuit that was employed for measurement of time intervals in the range of $10^{-7} \div 10^{-10}$ sec. A brief description of the design and methods of measuring the wave resistance, delay and attenuation in the line is presented in this article. The design is illustrated (Fig. 1). Its main element is a hollow mobile brass drum with a surface in the form of a square-section spiral of the type suggested by Bell (Ref.1). The square is 18 x 18 mm. A copper conductor 4 mm in diameter is laid along this spiral axis on rings from fluoroplastic. This conductor is the inner conductor of a high-frequency cable. The spiral diameter is 220 mm, the turns number 22. The drum rotates on plain journal bearings on posts.

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Minimum and constant contact resistance of the mobile part with the stationary part is important. In this case it was 0.05 ohm. The transition from the mobile part to the immobile part is also a coaxial line with the same wave resistance. A slip collector takes the signal from the open cylinder surface. The collector is a cathode follower circuit with a diode. The drum may be rotated by hand or by motor (a drive pulley is provided). The wave resistance was determined in two ways (Fig. 2). Voltage from the output of a 102-И (102-I) sweep generator is transmitted to the delay line, the other end of which is loaded with alternating resistance (R). A reverse reflected wave which can occur in the case of load mismatch is transmitted to the generator input. As seen in the diagram, the direct wave from the output arrives simultaneously. The carrier frequency is to be selected on the most even portion of the frequency characteristic of the generator. A maximum approach of the frequency characteristic watched on the screen to the natural frequency of the generator is to be achieved gradually by changing the resistance. The absence of reflections from the line end shows that the line is loaded with wave resistance that can be determined by measuring the resistance R. In our case it was 95±10 ohms. Wave resistance

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can be measured in the same way with the use of an ИПХ-1 (IPKh-1) transition characteristic meter. The front of the П- pulse will be seen on the screen. It grows in $(1.5 \pm 0.2) \cdot 10^{-8}$ sec (Fig. 3,a). This oscillogram appears at full match of the load and wave resistance. In the case of disconnected line, the oscillogram will be as in Fig. 3 b , and in the case of short-circuit as in Fig. 3c. The second method is more accurate, the measured resistance was 100 ± 5 ohms. The double delay time may be determined by oscillograms (Fig. 3) using the time division marks on the IPKh-1. In Fig. 3 it is indicated by 2τ, and it is in our case $(10 \pm 2) \cdot 10^{-8}$ sec. More accurate measurement is possible with the circuit in Fig. 4. A signal from a ГСС-1 (GSS-1) sinusoidal oscillator is modulated in amplitude with 400 cycles frequency and fed to the line. The line is connected to a high-ohmic measurement circuit and works nearly as in the case of a line opened at the end. An ЭО-7 (EO-7) oscillograph is used as an indicator. The work frequencies are reaching far beyond the pass band of the EO-7 and a crystal diode amplitude detector must be used, then the senusoidal oscillations of 400 cycles frequency will be seen on the EO-7 screen. Measurements consist in the smooth variation of the generator carrier frequency. When the generator frequency is such that an uneven number of

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wave quarters can be placed on the line length, the voltage on the line end will bulge. Obviously, there will be a maximum sinusoid amplitude on the screen. This case is described by the formula

$$\ell = \frac{2n - 1}{4}\lambda \text{ or, } v = \frac{4\ell}{2n - 1} f,$$

where v is the wave propagation velocity in the line; ℓ - the line length; λ - the generator wave length; f - generator frequency. Substituting n = 3; 23.1 megacycle frequency, and 14.2 m line length:

$$v = 2.63 \cdot 10^{-10} \text{ m/sec.}$$

Knowing the line length and the signal propagation velocity the delay time is found:

$$T_{del} = \frac{\ell}{v} = (5.40 \pm 0.15) \cdot 10^{-8} \text{ sec.}$$

Measurement can also be carried out when the line is short-circuited at the end. The oscillograph must then be connected through the detector to the line input. Attenuation was determined by the following procedure:

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The Q-factor of the circuit with the line is measured by a Q-meter at parallel and series resonance. The calculation formula is (Ref. 2)

$$\alpha l = \sqrt{\left(\frac{1}{Q_1} - \frac{1}{Q_o}\right)\left(\frac{1}{Q_2} - \frac{1}{Q_o}\right)}$$

where α is the attenuation factor; Q_1 - the circuit quality at parallel resonance, Q_2 - at series resonance, Q_o - of circuit proper, l - line length. The measured attenuation was ± 0.004 decibel. A different method can also be used. First, the resonance frequency in the line is calculated using the formula (Ref. 3)

$$f_{(\text{megacycle})} = \frac{144\beta}{l}$$

where $\beta = \frac{v}{c}$ - relative signal velocity in the line; l - line length in ft. Then the Q-factor and capacitance are determined with the Q-meter. The $\frac{M}{2\pi}$ value is determined by the formula

$$\frac{M}{2\pi} = 10^{-6} f_{(\text{megacycle})} C\,(\text{pf}) \rho\,(\text{ohm})$$

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The S value is found from the graph in Ref. 3 and the line attenuation will be found by the formula

$$N = \frac{S}{Q\ell} \text{ decibel/100 ft.}$$

In our case it was 0.037 ± 0.004 decibel. The design of the delay line proved convenient in use, and the accuracy of measurements proved sufficient, for the error in the determination of the excitation life time was not exceeded. There are 4 figures and 3 references (2 in English language and 1 a translation into Russian). The references are reading: (Ref.1) Bell, Graham, Petch. Canadian J. of Physics, 1952, 30, 35; (Ref. 2) Termen and Pettit (Russian spelling); "Measurement in electronics". Izdatel'stvo inostrannoy literatury, Moscow, 1955; (Ref. 3) Stewart, C.Z., Trans. AIEE, 1945, 64, 616, 938.

Card 6/~~11~~ 6

KONONOV, B.N.; SIDOROV, A.S.; LEONOV, V.F.

Current discriminators on tunnel diodes. Prib. i tekh. eksp. 8 no.5:103-106 S-O '63. (MIRA 16:12)

LEOKOV, V.G.

Effect of therapeutic sleep on development of callus in fractures.
Vest. khir. 71 no.2:72-73 1951. (CLML 20:8)

PUPKO, V.V.; LEONOV, V.I.; SHEREMET'YEV, K.G.

Experimental study of the start characteristics of devices using semiconductor resistances. Sbor. nauch. trud. ELNII 3:156-162 '63. (MIRA 17:4)

LEONOV, V.I.

Automatic line for machining spring clevis pins. Avt. prom. 30 no.11:41-42 N '64 (MIRA 18:2)

1. Ul'yanovskiy avtomobil'nyy zavod.

LEONOV, V.I.

Unit for delivering wheels to the assembly conveyor. Avt. prom. 31 no.1:41 Ja '64. (MIRA 18:3)

1. Ul'yanovskiy avtozavod.

L 46002-66 EWT(m)/EWP(k)/EWP(t)/ETI IJP(c) JD/JT

ACC NR: AR6028426 SOURCE CODE: UR/0137/66/000/005/B014/B014

AUTHOR: Brutskus, Yu. K.; Leonov, V. I.

TITLE: Inductive vacuum melting furnaces of small and medium capacity

SOURCE: Ref. zh. Metallurgiya, Abs. 5B85

REF SOURCE: Elektrotermiya, Nauchno-tekhn. sb., vyp. 47, 1965, 18-21

TOPIC TAGS: vacuum furnace, induction furnace, melting furnace, heat resistant alloy

ABSTRACT: Vacuum induction batch furnaces have been developed at the Special Design Bureau of the All-Union Scientific Research Institute of Electrothermal Equipment (SKB VNIIETO) for obtaining ingots from specialty steel and heat resistant alloys. The furnaces which have capacities of 10, 60, and 160 kg, are within standard dimensions of vacuum induction melting furnaces. Technical specifications of these furnaces are presented and their mode of operation and design features are described. V. Pryanikova. Orig. art. has: 2 figures. [Translation of abstract] [NT]

SUB CODE: 13/

Card 1/1 UDC: 669:621.745.31:621.365.4

LEONOV, V.Kh.

Apparatus with semiconductor triodes for continuous recording of neutrons. Geomag. i aer. 1 no.3:444-445 My-Je '61.
(MIRA 14:9)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR.

(Neutrons) (Triodes)

L 21763-65 EWT(m)/T IJP(c)/APETR/ESD(t)

ACCESSION NR: AP5000525 S/0203/64/004/006/1101/1105

AUTHOR: Leonov, V. Kh.; Nazaryuk, Ye. A. 19 B

TITLE: Neutron monitor using a transistorized electric circuit

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 6, 1964, 1101-1105

TOPIC TAGS: neutron monitor, transistorized amplifier, transistorized counter, miniature electron tube

ABSTRACT: The proposed transistorized neutron monitor is designed for high-stability operation at a high noise level with input sensitivity of several millivolts. It consists of the following basic units: a preamplifier, a shaper-amplifier, an anticoincidence circuit, a scaling device with a mechanical counter, and a high-accuracy recording unit. The preamplifier is an input stage and an amplifier using two transistors enveloped with deep negative feedback. The input stage utilizes a 1Zh24B miniature tube (filament current, 11 mamp; life, 5000 hr; plate load, 3 kohm; input resistance, approximately 3 Mohm; gain, 3). Total gain of the preamplifier does not exceed 20. The shaper-amplifier consists of an amplifier similar to the one in-

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ACCESSION NR: AP5000525

cluded in the preamplifier and a blocking-oscillator which serves as the shaping stage. Total gain can be varied from 5 to 30. The operational threshold of the blocking-oscillator is smoothly adjusted by a potentiometer. The anticoincidence circuit utilizes P 15 transistors and also consists of preamplifier, amplifier, and blocking oscillator. Orig. art. has: 5 figures and 3 formulas. [DW]

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, Ionosphere, and Radio Wave Propagation, AN SSSR)

SUBMITTED: 12Mar64 ENCL: 00 SUB CODE: EC, NP

NO REF SOV: 009 OTHER: 000 ATD PRESS: 3168

Card 2/2

L 4490-66 EWT(l)/EWT(m)/FCC/T/EWA(h) IJP(c) GW

ACC NR: AP5024661 SOURCE CODE: UR/0048/65/029/009/1781/1783

AUTHOR: Blokh, Ya.L.; Dorman, L.I.; Inozemtseva, O.I.; Leonov, V.Kh.; Mazaryuk, Ye.A.

ORG: none

TITLE: Counter telescope for recording the total cosmic ray flux with enhanced statistics /Report, All-Union Conference on Cosmic Ray Physics held at Apatity 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 9, 1965, 1781-1783

TOPIC TAGS: particle counter, cosmic ray telescope, cosmic ray measurement, cosmic ray anisotropy

ABSTRACT: The authors discuss the design of a crossed counter telescope for recording the total cosmic ray flux. A design goal was to achieve a statistical accuracy of 0.1 % in 2 hours of counting. Design calculations for 25 different geometries were perfomed by a generalization of the method previously given by Ya.L.Blokh (Sb. "Kosmicheskiye luchi", No.3, ser. Rezul'taty MGG, str. 80. Izd. AN SSSR, 1961) for calculating directional curves for cubic geometry. The instrument was designed without lead to simplify the construction and to permit recording of the electron component, which is most sensitive to anisotropy effects. The final design consists of 16 identical 60 x 60 x 90 cm^3 elements containing 10 counters each and arranged with a 10 cm spacing between elements in a 270 x 270 x 90 cm^3 rectangular parallelepiped with the

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L 4400-66

ACC NR: AP5024661

square faces horizontal. Counts are to be recorded in five principal directions (north, south, east, west, and vertical) and in four supplementary diagonal directions. The half-width of the directional diagram is 24°, the effective zenith angle is 33°, and the acceptance angle is 0.3 sterad. The sensitive area is approximately 4 m^2 in each direction, and a statistical accuracy of 0.14 % is anticipated for a 2 hour run. Correction will be made for changes in the accidental coincidence rate due to changes in the cosmic ray flux. Orig. art. has: 2 figures.

SUB CODE: NP/ SUBM DATE: 00/ ORIG REF: 004/ OTH REF: 002

Card 2/2

KHASHEGANU. Mikhail [Hasegamu, Mihail], prof.; GIKA, G.[Chica,G.]; KHOLAN, A.[Holan, A.]; SYMBOAN, S.[Simboan, S.]; MOKANU, K. [Mocanu, K.]; MUNTYANU, T.[Munteanu, T.]; ALEKSANDRU, D. [Alexandru, D.]; IOVENESKU, M.[Iovinescu, M.]; DZHAMO, N. [Djamo, N.]; KOZHEVNIKOVA, Ye.V.[translator]; KORMANOV , Yu.F. [translator]; LEONOV , V.E.[translator]; MOZHAROV, N.D. [translator]; ZHIRMUNSKIY, M.M., red.; TOPORKOV, G.N., red.; YANKOVICH, O.Yu., doktor, red.; BELEVA, M.A., tekhn. red.

[The economic geography of the Rumanian People's Republic] Ekonomicheskaia geografiia Rumynskoi Narodnoi Respubliki. Kniga napisana kollektivom avtorov pod rukovodstvom Mikhaila Khasheganu. Moskva, Izd-vo inostr. lit-ry, 1961. 551 p. Translated from the Rumanian. (MIRA 15:4)
(Rumania--Economic geography)

LEONOV, V.M., kand.med.nauk

Necessiti for and principles of oxygen therapy in enfectious diseases. Terap.arkh. 34 no.2:101-105 '62. (MIRA 15:3)

1. Iz kafedry infektsionnykh bolezney (nach. - prof. P.A. Alisov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(OXYGEN THERAPY) (COMMUNICABLE DISEASES)

LEONOV, V.M. (Leningrad)

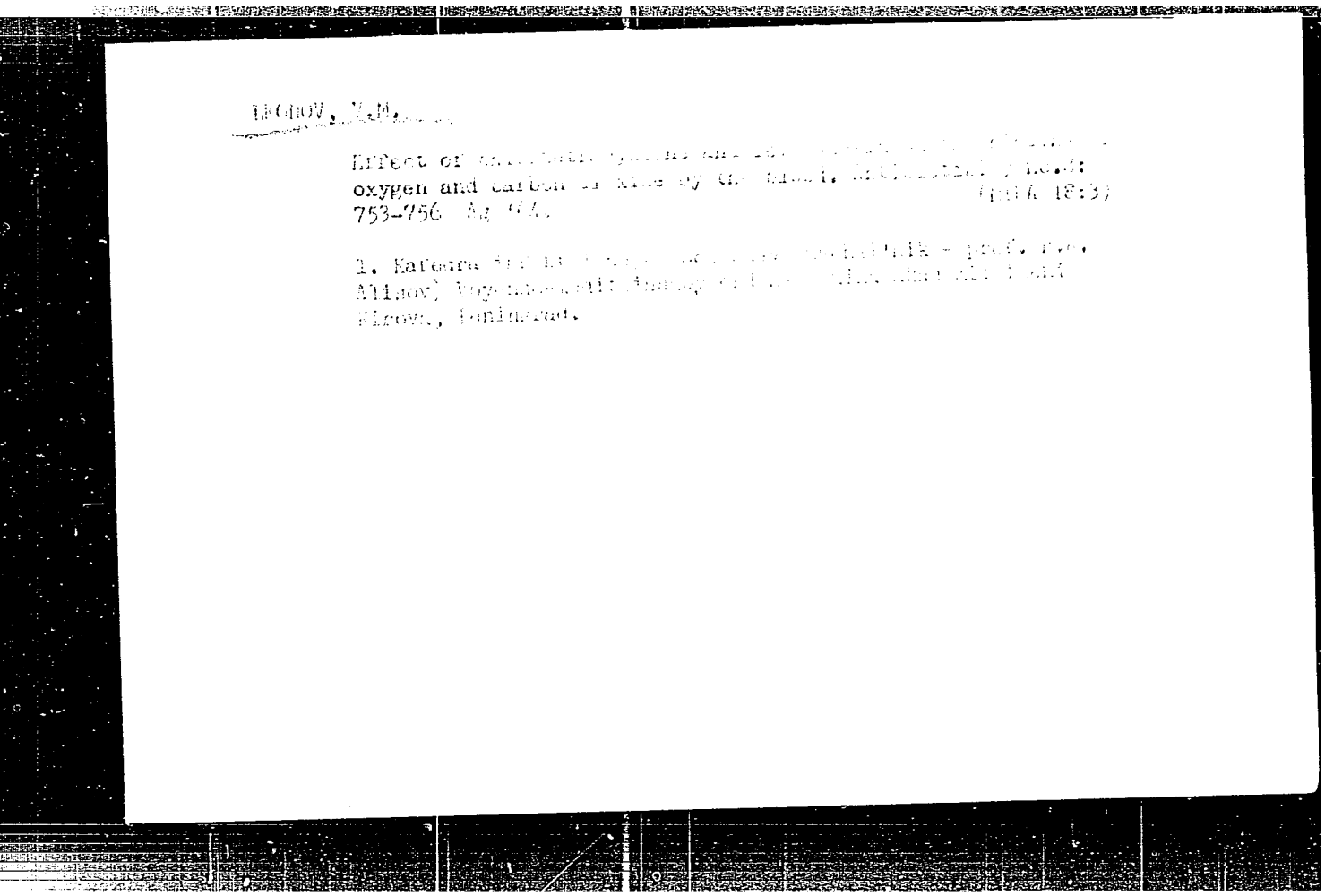
Basal metabolism and fever in typhoid-paratyphoid patients. (MIRA 17:4)
Arkh. pat. 25 no.4 75-91 '63

1. Iz kafedry infektsionnykh bolezney (nach. - polkovnik meditsinskoy sluzhby prof. P.A. Alisov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

LEONOV, V.M.

Measurement of the temperature of arterial and venous blood in man. Lab. delo 10 no.4:245-247 '64. (MIRA 17:5)

1. Kafedra infektsionnykh bolezney (nachal'nik - prof.P.A.Alisov) Voyenno-meditsinskoy ordena Lenina akademii im. S.M.Kirova, Leningrad.



ANANCHENKO, S. N.; LEONOV, V. N.; LIMANOV, V. E.

"A new class of anabolic agents of the D-homosterigd type."

report submitted for the IUPAC 2nd International Symposium on the Chemistry of Natural Products, Prague Czech., 27 Aug - 2 Sep 62

5(2),5(3)

AUTHORS: Sazonova, V. A., Leonov, V. N.

SOV/75-14-4-18/30

TITLE: Tetra-(p-tolyl)-boron-lithium as a Reagent for the Quantitative Determination of Sodium

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 4, pp 483-484 (USSR)

ABSTRACT: Utilizing a paper, published earlier (Ref 2), which dealt with the reaction of magnesium-organic compounds with sodium boron fluoride, the authors found that in the reaction of p-tolyl-magnesium bromide with sodium boron fluoride tetra-(p-tolyl)-sodium boride is formed which is difficultly soluble in water:

$$NaBF_4 + n\text{-}CH_3C_6H_4MgBr \longrightarrow NaB(C_6H_4CH_3)_4 . \quad (1)$$

This compound reacts in an alcoholic solution with lithium boron fluoride and, based on one exchange-reaction, the water-soluble tetra-(p-tolyl)-boron lithium is formed:

$$NaB(C_6H_4CH_3)_4 + LiBF_4 \longrightarrow LiB(C_6H_4CH_3)_4 + NaBF_4\downarrow . \quad (2)$$

$LiB(C_6H_4CH_3)_4$ forms colorless crystals, easily soluble in water, alcohol, acetone, and ether, insoluble in petroleum ether.

Tetra-(p-tolyl)-boron-lithium as a Reagent for the Quantitative Determination of Sodium

SOV/75-14-4-18/30

Tetra-(p-tolyl)-boron lithium precipitates in aqueous solution the cations Na^+, K^+, Rb^+, Cs^+ and others. The authors used for the quantitative determination of sodium a 10-13% aqueous solution of this reagent adding 2 - 3 drops of a 3% NaCl-solution. On the addition of NaCl solution a precipitate is formed by which the reagent is saturated with tetra-(p-tolyl)-boron sodium. The solution is subsequently filtered and is then ready for use. In the determinations of sodium the authors added to the 1 ml NaCl solution, which also contained 0.0301 g of NaCl per ml, 3 - 4 ml of the reagent solution. The formed precipitate was sucked off after 5 - 10 minutes, it was washed 4 - 5 times with 1.5 - 2 ml of the reagent solution and dried in an exsiccator at room temperature over P_2O_5. The precipitate was then freed from the remaining reagent by 4 - 5-time washing with absolute ether and dried once more at room temperature until weight constancy was attained. A table gives the results obtained in 4 determinations made by this method. The reagent also precipitates K^+, Rb^+, and Cs^+ which can be quantitatively precipitated with tetraphenyl boron lithium already before the determination of sodium, the sodium remaining in solution. A great advantage of the method

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Tetra-(p-tolyl)-boron-lithium as a Reagent for the Quantitative Determination of Sodium SOV/75-14-4-18/30

described is that only small amounts of the reagent are needed, because it can be re-transformed into $LiB(C_6H_4CH_3)_4$ according to equation (2) after the gravimetric determination of the tetra-(p-tolyl)-boron sodium. The method additionally permits the determination of sodium in the presence of lithium. Aqueous solutions of tetra-(p-tolyl)-boron lithium cannot be kept for a long time in the air without change. Therefore, the reagent has to be prepared immediately before using it. The two steps (equations (1) and (2)) for the preparation of the reagent are described in every detail. There are 1 table and 3 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University, imeni M. V. Lomonosov)

SUBMITTED: June 24, 1958

Card 3/3

ANANCHENKO, S.N.; LEONOV, V.N.; PLATONOVA, A.V.; TORGOV, I.V.

New steps leading to the synthesis of steroid compounds. Complete synthesis of d,l-estrone. Dokl. AN SSSR 135 no.1:73-76 N '60. (MIRA 13:11)

1. Institut khimii prirodnykh soyedineniy AN SSSR. Predstavlono akademikom M.M.Shemyakinym.

(Estrone) (Steroids)

ANANCHENKO, S.N.; TORGOV, I.V.; LEONOV, V.N.

Complete synthesis of equilenin, estrone, and their stereoisomers. Med. prom. 15 no.2:38-43 F '61. (MIRA 14:3)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(EQUILENIN) (ESTRONE)

ANANCHENKO, S.N.; PLATONOVA, A.V.; LEONOV, V.N.; TORGOV, I.V.

Synthesis of 19-norsteroids based on 3-methoxy-Δ 1, 3, 5, (10), 8, 14-D-homoestrapenta-17a-enone. Izv.AN SSSR.Otd.khim.nauk no.6: 1074-1080 Je '61. (MIRA 14:6)

1. Institut khimii priodnykh soyedineniy AN SSSR.
(Norsteroids)

ANANCHENKO, S.N.; RZHEZNIKOV, V.M.; LEONOV, V.N.; TORGOV, I.V.

Synthesis of DL-19-nor-D-homotestosterone and its 17a-alkyl homologs. Izv.AN SSSR.Otd.khim.nauk no.10:1913-1914 O '61. (MIRA 14:10)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Testosterone)

LEONOV, V.N.; ANANCHENKO, S.N.; TORGOV, I.V.

New method of synthesizing steroid compounds. Complete synthesis of dl-8-isoestrone. Dokl.AN SSSR 138 no.2:384-386 My '61.
(MIRA 14:5)

1. Institut khimii prirodnykh soyedineniy Akademii nauk SSSR. Predstavleno akademikom M.M.Shemyakinym.
(Isoestrone)

LEONOV, V.N. (Moskva)

Estrone. Priroda 51 no.11:99-101 N '62. (MIRA 15:11)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Estrone)

VUL'FSON, N.S.; TORGOV, I.V.; ZARETSKIY, V.I.; LEONOV, V.N.; ANANCHENKO, S.N.; ZAIKIN, V.G.

Mass spectrometric determination of the configuration of epimeric tert. alcohols in the D-homosteroid series. Izv.AN SSSR. Ser.khim. no.1:184-186 Ja '64. (MIRA 17:4)

1. Institut khimii prirodnykh soyedineniy AN SSSR.

LEONOV, V.N.; SHAPKINA, E.V.; ANANCHENKO, S.N.; TORGOV, I.V.

Configuration of epimeric d,l-17a-alkyl-19-nor-D-homotestosterones. Izv.AN SSSR.Ser.khim. no.2:375-377 F '64. (MIRA 17:3)

1. Institut khimii prirodnykh soyedineniy AN SSSR.

LEONOV, V.N., kapitan 2-go ranga zapasa, dvazhdy Geroy Sovetskogo Soyuza

Remembering bygone days. Mor. sbor. 47 no.7:29-30 Jl '64.
(MIRA 18:7)

L 08788-67 EWT(d)/EWP(1) IJP(c)

ACC NR: AT6025804 SOURCE CODE: UR/3221/64/000/002/0048/0055

AUTHOR: Leonov, V. V. 31

ORG: none 16

TITLE: On the problem of dynamic programming for multistep processes

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut matematiki. Diskretnyy analiz, no. 2, 1964, 48-55

TOPIC TAGS: dynamic programming, set theory, optimal control, sequence, algorithm

ABSTRACT: This paper presents an investigation of multistep processes with a discrete set of states and a finite set of control actions. Maximin problems of dynamic programming are studied. The work was done to explain those properties of multistep processes the knowledge of which can, in many cases, considerably reduce sorting when seeking an optimal control process. The multistep process in question is determined by the recurrence formulas

$$\begin{aligned} m_n &= f(k_n, l_n, m_{n-1}), \\ m_{n-1} &= f(k_{n-1}, l_{n-1}, m_{n-2}), \\ &\cdots\cdots\cdots\cdots \\ m_2 &= f(k_2, l_2, m_1), \\ m_1 &= f(k_1, l_1, m_0), \end{aligned}$$

where $f(k, l, m)$ is a single-valued function, assigned by the integral functions

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L 08788-67

ACC NR: AT6025804

$$k \in \{1, \ldots, \mathcal{K}\} = Q_1, \quad l \in \{1, \ldots, L\} = Q_2, \quad m \in \{\ldots, -m', -m'+1, \ldots, -2, -1, 0, 1, 2, \ldots, m', \ldots\} = P.$$

Set P is the set of states m of some system H, and set $Q = Q_1 + Q_2$ is the set of control acts (k, l), as a result of the action of which system H converts from one state to another. The problem is to find at least one element $z_n(m_0) \in S_n(m_0)$ such that

$$R(z_N(m_0)) = \max_{(k_1, \ldots, k_N) \in Q_1^N} \min_{m' \in S_N^{k_1, \ldots, k_N}(m_0)} R(m') = R_N(m_0)$$

and a control process as a result of which system H goes from state m_0 to state $z_n(m_0)$. An equivalent problem is solved: to find the value of $D_N(m_0)$ and that control process as a result of which system H converts from state m_0 to state $D_N(m_0)$ in the N-th step. One optimum problem is replaced on a sequence of optimum problems of less complexity. Four theorems are employed. Orig. art. has: 6 formulas.

SUB CODE: 12/ SUBM DATE: none/ OTH REF: 001

Card 2/2 nst

LEONOV, V.P.

Single-chamber vacuum-drying apparatus (first variant) and the method of working on it. Izv.Irk.gos.nauch.-issl.protivochum. inst. 20:317-330 '59. (MIRA 13:7)
(BIOLOGICAL PRODUCTS--DRYING) (VACUUM APPARATUS)

LEONOV, V.P., inzh.; SHESTAKOVA, I.S., doktor tekhn. nauk, prof.

Use of the chromatographic method for studying the products of oxidation of seal oil. Nauch. trudy MTILP 25:27-32 '62. (MIRA 16:8)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

LEONOV, V.P., inzh.

New method for tanning suede leather. Kozh.-obuv. prom. 2 no. 11:37 N '60. (MIRA 13:12)
(Tanning)

LEONOV, V.P., inzh.; SHESTAKOVA, I.S., prof., doktor tekhn. nauk

Some problems of the theory of oil tanning. Nauch. trudy MTILP no.24:3-11 '62. (MIRA 16:7)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.
(Tanning)

LEONOV, V.P., inzh.; SHESTAKOVA, I.S., prof., doktor tekhn. nauk

Effect of oil dosage and initial moisture of the hides on the properties of suede leather. Nauch. trudy MTILP no.24:12-21 '62. (MIRA 16:7)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.
(Leather--Testing)

LEONOV, V.P.

DECEASED
c 1960

1961/I

See IIC

MATHEMATICIAN

LEONOV, Viktor Petrovich; POSTNIKOV, A.G., doktor fiz.-mat. nauk, otv. red.; SHIRYAYEV, A.N., kand. fiz.-matem. nauk, otv. red.

[Some applications of higher semi-invariants to the theory of stationary random processes] Nekotorye primeneniia starshikh semiinvariantov k teorii statsionarnykh sluchainykh protsessov. Moskva, Izd-vo "Nauka," 1964. 65 p.
(MIRA 17:6)

L 6373-66

ACC NR: AP5026773 SOURCE CODE: UR/0286/65/000/017/0055/0056

AUTHOR: Klimov, N. I.; Degtyarev, G. A.; Leonov, V. S. 12

ORG: none

TITLE: An artificial leg. Class 30, No. 174322

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 55-56

TOPIC TAGS: prosthetics, prosthesis, artificial limb

ABSTRACT: This Author's Certificate introduces an artificial leg which contains a thigh casing, a tubular shin casing, ankle and foot. The mechanism is covered with an elastic material. The ankle is made in the form of two specially geared sections fixed with respect to one another by a tie bolt so that the foot can be adjusted to heels of varying height. The foot is equipped with an elastic toe section and has a hinged plate with a notch which takes the cylindrical head of a screw fastened into the insole.

UDC: 615.477.22

Card 1/2

L 6373-66
ACC NR: AP5026773

8

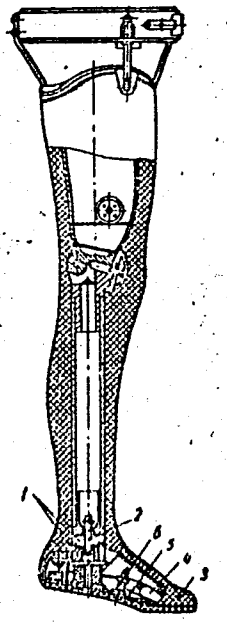

Fig. 1. 1--geared sections; 2--tie bolt; 3--elastic toe; 4--plate; 5--insole; 6--screw

SUB CODE: LS/ SUBM DATE: 26Aug64/ ORIG REF: 000/ OTH REF: 000

Card 2/2

3(7),8(1)

AUTHORS: Leonov, V. S., Bulichev, V. N., Groshev, P. N., Khakhalin, V. S. SOV/50-59-1-11/20

TITLE: Restoring Long-Stored Dry Batteries for Radio Sondes (Vosstanovleniye dolgo khranivshikhsya sukhikh batarey pitaniya radiozondov)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 1, pp 49-50 (USSR)

ABSTRACT: The anode battery GB-70 Nr 2, and the filament battery BON-3, which are used for the transmitter of radio sondes, have a storing period of one year. But often they are stored much longer, 2 to 3 years, and are then useless owing to self-discharge and drying up of the electrolyte liquid. In spite of this, they should not be discarded. They can be recharged with the rectifier of a radio set or with a car battery while the elements of the battery are supplied with water from an injector (syringe). Such restored batteries are sometimes more efficient than fresh ones which were not treated in this way. The paper gives further details on measuring the charging-current intensity and voltage, as well as controlling the temperature while charging.

Card 1/1

LECHOV, V.T.

Application of medicinal sleep in the treatment of fractures. Sovet. med. 16 no.3:15-18 Mar 1952. (CLML 22:1)

1. Moscow.

LEONOV, V.T.

Effect of drug-induced sleep on the development of the callus in fractures; preliminary report. Trudy AMN SSSR 24 no.2:35-41 '53. (MLRA 7:7)

(FRACTURES, therapy,
*sleep, eff. on form. of callus)
(SLEEP, therapeutic use,
*fract., eff. on form. of callus)

TOMASHOV, N.D.; MIKHAYLOVSKIY, Yu.N.; LEONOV, V.V.

. Investigating the work of differential aeration couples in soils.
Trudy Inst.fiz.khim. 8:217-225 '60. (MIRA 14:4)

(Soil corrosion)

TOMASHOV, N.D.; LUNEV, A.F.; MIKHAYLOVSKIY, Yu.N.; LEONOV, V.V.

Determination of protective properties of metal coatings. Trudy Inst.fiz.khim. 8:235-248 '60. (MIRA 14:4)

(Protective coatings)

TOMASHOV, N.D.; MIKHAYLOVSKIY, Yu.N.; LEONOV, V.V.

Kinetics of the deterioration of portective coatings on metals in electrolytes. Trudy Inst.fiz.khim. 8:291-296 '60. (MIRA 14:4)

(Protective coatings) (Electrolytic corrosion)

TOMASHOV, N.D.; MIKHAYLOVSKIY, Yu.N.; LEONOV, V.V.

Kinetics of cathodic processes in the corrosion of metals under protective coatings. Trudy Inst.fiz.khim. 8:297-304 '60. (MIRA 14:4)

(Protective coatings) (Electrolytic corrosion)

29420

S/081/61/000/017/058/166
B110/B138

18.8300

AUTHORS: Tomashov, N. D., Mikhaylovskiy, Yu. N., Leonov, V. V.

TITLE: Study of the action of macrocorrosion pairs formed when a metal surface is partially protected by thin protective films

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1961, 293, abstract 17И218 (Tr. In-ta fiz. khimii. AN SSSR, no. 8, 1960, 305 - 312)

TEXT: The authors investigated the effect of macrocorrosion pairs on protected and unprotected metals immersed in an electrolyte consisting of 0.5 N NaCl, 0.016 N H_2O_2 and 0.01 N HCl at ~20°C. Protective materials used were: asphalt, paraffin, wax, bakelite varnish, nitrocellulose, drying oil, whit with drying oil and minium with drying oil. The protective films (PF) were 1.0 - 6.0μ thick. Irrespective of the type of the PF an insulated electrode in couple with an uninsulated one always acts as the cathode. The corrosion current of the pair increases in the order Cu-Al-Fe-Zn. The presence of an incomplete PF on the metal surface leads to an improvement in the static potential of the electrode.

Card 1/2

S/076/61/035/002/009/015
B124/B201

AUTHORS: Tomashov, N. D., Mikhaylovskiy, Yu. N., and Leonov, V. V.

TITLE: Mechanism of the electrochemical corrosion of metals under insulation coatings. I. Kinetics of the destruction of insulation coatings on metals in electrolytes

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 2, 1961, 367-372

TEXT: A study has been made of the electrochemical behavior of metal electrodes insulated by means of thin bitumen-, paraffin-, bakelite-, and other coatings. The electrodes were Pt, Cu, and Fe wires, 0.5 to 1 mm in diameter. The film was applied by dipping the electrode into liquid insulating material and then slowly and uniformly extracting it by a Warren motor. The thickness of the resulting film was determined by the extraction rate of the electrode and the viscosity of the insulating material. The capacity method was applied for measuring the film thickness; it amounted to 1 - 4 μ . The kinetics of the destruction of the insulation film on metals in electrolytes was measured with the aid of the capacity and the resistance of the insulated electrode in a 0.5 N

NaCl solution; the measuring device is diagrammatically shown in Fig. 1. After electrode 1 was insulated, it was dipped into glass cell 2 filled with the electrolyte. Capacity and resistance were measured with a cylindrical auxiliary Pt electrode 3. The measurement was made with the equal-armed bridge 5 which was fed by generator 4 of the type ЗГ2А (3G2A). The a-c amplitude did not exceed 20-25 mv. The bridge equilibrium was visually fixed with the oscilloscope 7 of the type ЭО-4 (EO-4), the amplifier 6 being connected to its input. Capacity and resistance were measured at determined time intervals after the electrode was dipped into the electrolyte. The tests were conducted at room temperature (20-22°C) within a maximum of 30 days. Fig. 2, a shows the curves of the change of capacity and resistance with time on a bitumen-film covered Pt electrode in 0.5 N NaCl. The capacity of the electrode rises and its resistance drops with time, which is correlated with the change of the film structure upon the action of the electrolyte. The authors theoretically infer from the measurement results that the deterioration of the insulation characteristics of coatings such as bitumen and the beginning of the corrosion process are chiefly connected with the penetration of the electrolyte into the micropores and defects of the film as far as near the metal sur-

face, while the swelling of the film takes longer and is of no great importance. Fig. 2,6 shows that RC remains constant during a 30-day test of the Pt electrode under bitumen coatings. Fig. 3, a shows the dependence of the Pt electrode capacity under a bitumen coating on the initial frequency during 15 to 30 days. Fig. 3,6 shows the same in logarithmic coordinates. The curves of the change of capacity on Fe and Cu insulated with a thin bitumen film are given in Fig. 4. A decisive factor determining the initial rate of destruction of the insulation film is the electrochemical nature of the metal. G. V. Akimov and N. D. Tomashov are mentioned. There are 4 figures and 10 references: 7 Soviet-bloc and 3 non-Soviet-bloc. The two references to English language publications read as follows: C. Corfield, Gas., 21, 11, 35, 1945; E. A. Koening, Oil, a.Gas J., 44, 20, 303, 1945.

ASSOCIATION: Akademiya nauk SSSR, Institut fizicheskoy khimii
(Academy of Sciences USSR, Institute of Physical Chemistry)

SUBMITTED: June 2, 1959

Card 3/5

21997
S/076/61/035/004/002/018
B106/B201

16.8300

AUTHORS: Tomashov, N.D., Mikhaylovskiy, Yu.N., and Leonov, V.V.

TITLE: Mechanism of the electrochemical corrosion of metals under insulating coatings

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 4, 1961, 736 - 742

TEXT: III. Study of the mode of operation of macrocorrosion pairs forming with partial insulation of a metal surface by thin protective films

In continuation of earlier studies on the corrosion processes in metals protected by insulating coatings (Ref. 1: Zh. fiz. khimii, 3, 400, 1960; Ref. 2: Zh. fiz. khimii, 35, 367, 1961), the authors conducted a systematic investigation of the mode of operation of the macrocorrosion pair formed from an insulated and the corresponding noninsulated metal in an electrolyte solution. The specimens were prepared from wire electrodes 1 mm in diameter and 50 mm in length, made of copper, iron, aluminum, and zinc. The insulation materials used were bitumen, paraffin, bakelite lacquer, nitrocellulose, varnish, zinc white on varnish, and Fe_2O_3 on

Card 1/6

Mechanism of the electrochemical ...

varnish; the coatings were between 1 and 6 μ thick. The method of applying the coatings has already been described in the abovementioned papers. The electrolyte solution was 0.5 N NaCl + 0.016 N H_2O_2 + 0.01 N HCl. The experiments were made at room temperature and took up to 48 hours. It was found that an insulated iron electrode always behaved as a cathode as compared to a noninsulated iron electrode, regardless of the nature of the insulation material. The maximum density of the corrosion current with iron electrodes was in most cases attained 12-15 hours after the beginning of the experiments. With equal thickness of the coating, the macrocorrosion current on an electrode with a bitumen coating was found to be 5 times as strong as on an electrode coated with varnish. The addition of pigmenting substances (excepting zinc white) to nitrocellulose and varnish effects an increase of the density of the maximum corrosion current. Similar conditions arise also in insulated zinc and aluminum electrodes. The initial capacity of insulated electrodes rises in the electrolyte solution by 2-3 orders of magnitude in the course of 48 hours, while the resistance drops to about the same extent. Such phenomena do not appear on noninsulated electrodes. The electrochemical nature of the

Mechanism of the electrochemical ...

electrode metal has an effect upon the corrosion current of the macro-corrosion pair. For the same insulation material (Fe_2O_3 on varnish), the density of the maximum corrosion current grows in the succession copper < < aluminum < iron < zinc, i.e., with dropping corrosion stability of the metal in the electrolyte solution. The mechanism of corrosion under the insulating coating was also studied. A porous insulating coating on the metal surface caused the steady electrode potential to turn more positive, and corrosion to be strongly concentrated in the pores and defects of the coatings. The results of the present work show that, regardless of the nature of the insulation material, the rate of destruction of thin porous insulating coatings is in the first place dependent upon the electrochemical nature of the electrode metal and of the corrosive medium. The coating will retain its insulating properties to a degree proportional to the stability of the metal in the respective electrolyte solution. This result is of a great practical importance. N.I. Zhuravleva is thanked for her active assistance in the experimental work. The authors intend to make a special study of diffusion phenomena on insulated electrodes. There are 6 figures, 2 tables, and 4 Soviet-bloc references.

Card 3/6

Mechanism of the electrochemical ...

ASSOCIATION: Akademiya nauk SSSR Institut fizicheskoy khimii
(Academy of Sciences USSR Institute of Physical Chemistry)

SUBMITTED: July 13, 1959

FIG. 2

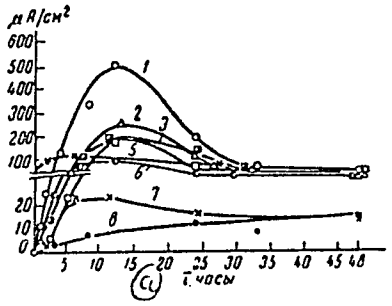

Fig. 2: Change of macrocorrosion current with time in vapors formed from noninsulated and insulated iron electrodes in the solution of 0,5 n NaCl + 0,016 n H_2O_2 + 0,01 n HCl. The insulated electrode is coated: (1) by bitumen; (2) by nitrocellulose with Cr_2O_3; (3) by bakelite lacquer; (4) by minium and oil-varnish; (5) paraffin; (6) oil-varnish; (7) zinc white and oil-varnish; (8) nitrocellulose; a) hr

Card 4/6

LEONOV, V.V., inzh.

Imperfect design. Stroi.truboprov. 8 no.7:32 Jl '63. (MIRA 17:2)

1. Gosudarstvennyy institut po proyektirovaniyu spetsial'nykh sooruzheniy promyshlennogo stroitel'stva.

18 8300 4016, 1138, 1208

S/076/61/035/003/010/023
B121/B203

AUTHORS: Tomashov, N. D., Mikhaylovskiy, Yu. N., and Leonov, V. V.

TITLE: Mechanism of electrochemical corrosion of metals under insulation coatings. II. Kinetics of cathodic processes during the corrosion of metals under insulation coatings

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 3, 1961, 588-594

TEXT: The authors studied the cathodic processes on metals (Pt, Cu, Fe) whose surface was coated with thin layers (1-6 μ) of an insulating film (bitumen, Bakelite, and nitrocellulose lacquers) in solutions of corrosive properties. They studied the cathodic polarization and the change in capacity of insulated and noninsulated platinum electrodes in a solution of 0.1 N Fe^{2+} + 0.1 N Fe^{3+}, and observed an intense polarization at the insulated electrode, even at low cathode current density. The occurrence of electron conductivity in individual parts of the insulating film of platinum is explained with the electron conductivity in the film itself. A gradual increase of the electrochemically active metal surface occurs during the cathodic polarization, which facilitates the electrochemical process. During

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the electrolytic process, the layer round the electrode is in an active state promoting the cathodic process. Therefore, cathodic processes may also occur in the thinnest spots of the insulating film. The mechanism of metal corrosion under porous insulating materials was discussed. The cathodic process was assumed to take place not only on the bare metal surface but also in the finest sections of the insulating film. Macro- and microcorrosion pairs occur on the metal surface insulated with a fine porous insulating film, the free metal surface acting as anode, and the insulated part as cathode. The density of the corrosion current does not only depend on the electrochemical nature of the electrode metal but also on the electric properties of the insulating material. The authors thank A. A. Novikov for assisting in the experiments. There are 5 figures and 13 references: 12 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Yasushi Soto, Masuo Kamioka, Yuhei Nemoto, J. Elektrochem. Soc. Japan, 26, 1, E-26, 1958.

ASSOCIATION: Institut fizicheskoy khimii Akademiya nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences USSR)

SUBMITTED: July 3, 1959

LEONOV, V.V.

Device for discharging air and water from petroleum pipelines. Stroi. truboprov. 9 no.6:33-34 Je '64.
(MIRA 17:12)

TOMASHOV, N.D., MIKHAYLOVSKIY, YU.N., LEONOV, V.V., AND NIKITENKO, YE.A.

"Electrochemical protection of buried structures from stray current corrosion by means of unilaterially polarizing anodes."

Report submitted to the Second Intl. Congress on Corrosion of Metals
New York City 11-15 March 1963

INSTITUTE OF PHYSICAL CHEMISTRY, MOSCOW

MIKHAYLOVSKIY, Yu.N.; NIKITENKO, Ye.A.; LEONOV, V.V.; TOMASHOV, N.D.

Electrochemical protection of gas pipelines from corrosion caused by stray currents. Gaz. prom. 7 no.9:37-42 '62.
(MIRA 17:8)

LEONOV, V.V.

Pneumatic test of petroleum pipelines. Transp. i khran. nefti pt. 3 no.2:7-9 '63. (MIRA 17:10)

1. Gosudarstvennyy institut po proyektirovaniyu spetsial'nykh sooruzheniy promyshlennogo stroitel'stva.

L 28532-66 EWP(j)/EWP(k)/EWT(m)/T/EWP(e)/EWP(t)/ETI IJP(c) RM/WW/JD/HW/WB/GD

ACC NR: AT6013800 (A) SOURCE CODE: UR/0000/65/000/000/0208/0219

66
B+1

AUTHOR: Tomashov, N. D.; Leonov, V. V.

ORG: none

TITLE: Effect of zinc filler on the protective properties of bituminous coatings

SOURCE: Korroziya metallov i splavov (Corrosion of metals and alloys), no. 2 Moscow, Izd-vo Metallurgiya, 1965, 208-219

TOPIC TAGS: bituminous coating, filler, zinc, metal coating, electrode, steel structure / St. 3 steel

ABSTRACT: Recently paint and varnish coatings with metal-powder (chiefly Zn and Al) fillers have begun to be widely used to protect steel structures against corrosion. In this connection, the article deals with elucidating the protective effect of zinc filler on bituminous coatings. The film-forming agent used was a primer (solution of bitumen in gasoline, in the ratio 1:3, used here to obtain uniform and thin bituminous coatings), and the filler was zinc dust (particle size 1 μ). Films with different concentrations of Zn filler (0 to 30% vol.%, which corresponded to 0 to 80 wt.% of the film) were investigated. Iron wire electrodes (of St. 3 steel) were used as the specimens. The thickness of thin films was determined by measuring electrode capacitance, and of thick films, with the aid of a micrometer. The

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ACC NR: AT6013800

quantities measured were: the change in potentials, capacitance and ohmic resistance and corrosion rate of the electrodes when coated with films 0.5 to 500 μ thick and immersed in a 0.5N solution of NaCl. The observed pattern of variation in these quantities indicates that for thick (>10-20 μ) coatings the corrosion rate of the electrodes remains negligibly small. This points to high protective properties of the coating itself as well as of the layer of the dissolution products of Zn forming at the coating's surface. Experiments with pairs consisting of a non-coated electrode and a coated electrode showed that for some time, which is a function of the thickness of coating and its Zn concentration, the coated electrode works as an effective anode with respect to the corrosion medium. A study of the behavior of these coatings in clay and sand with 10% moisture content shows that even thin Zn-filler coatings protect iron in soil for a much longer period of time than in liquid electrolytes: this finding points to the great usefulness of Zn-filled bituminous coatings for subsurface structures -- greater than for surface structures or for liquid corrosion media. The mechanism of action of the Zn filler is not confined to the protective electrochemical effect of Zn particles with respect to the protected metal but is also based on the eventual densification of the surface layer of the coating by the relatively insoluble products of the corrosion of Zn. Orig. art. has: 10 figures

SUB CODE: 13, 07, 11, 20/ SUBM DATE: 19Jul65/ ORIG REF: 005/ OTH REF: 002

Card 2/2

L 16116-66 EWT(d) IJP(c)
ACC NR: AP6004251 SOURCE CODE: UR/0378/65/000/006/0075/0080

AUTHOR: Leonov, V. V.

ORG: none

TITLE: On the numerical solution of one class of optimum problems by the Pontryagin method

SOURCE: Kibernetika, no. 6, 1965, 75-80

TOPIC TAGS: optimum control, Pontryagin maximum principle, iterative scheme

ABSTRACT: The numerical solution of the optimal control problem for the system described by two differential equations

$$\frac{dx}{dt} = u, \qquad \frac{dy}{dt} = v, \tag{1}$$

Card 1/2 UDC: 519.8

0

where u(t) and v(t) are control parameters constrained by the condition

$$u^2 + v^2 \leq 1, \qquad (2)$$

is considered. Pontryagin's maximum principle is used to determine from the set of allowable control functions those functions which minimize a certain performance functional. In accordance with this principle, to determine optimal allowable control functions, a system of six equations is set up and its solution is sought with certain boundary conditions. This system if finally reduced to a system of two integro-differential equations and an iterative scheme is proposed for their approximate solution. Theorems are proved establishing conditions under which the iterative process is convergent. It is indicated that the results obtained can be transferred without any changes to n-th order systems. Orig. art. has: 37 formulas. [LK]

SUB CODE: 09 12 SUBM DATE: 24Mar65/ ORIG REF: 004/ ATD PRESS: 4205

[illegible]ONOV, V.V.

Topological characteristics of the solution of a system of non-linear differential equations near a movable singular point. Sib. mat. zhur. [illegible]

[illegible]

MIKHAYLOVSKIY, Yu.N.; LEONOV, V.V.; TOMASHOV, N.D.

Measuring the resistance of insulating protective coatings immersed in an electrolyte. Zashch. met. 1 no.5:577-582 S-O '65. (MIRA 18:9)

1. Institut fizicheskoy khimii AN SSSR.

L 3585-66 EWT(l)/EPF(c) IJP(c) WW/GG

ACCESSION NR: AP5021867 UR/0362/65/001/008/0803/0814
535.361

AUTHORS: Ivanov, V. V.; Leonov, V. V.

TITLE: Light scattering in an optically thick atmosphere for a nonspherical indicatrix

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, no. 8, 1965, 803-814

TOPIC TAGS: meteorology, atmospheric light scattering, theory of light scattering, light transmission, light reflection

ABSTRACT: The problem of diffuse reflection and transmission of light through an optically thick layer was treated theoretically. In the treatment a nonspherical scattering indicatrix was assumed

$$x(\gamma) = 1 + x_1 \cos\gamma,$$

where γ is the angle of scattering. Rigorous asymptotic formulae for the functions expressing the intensity of reflected and transmitted light have been derived

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ACCESSION NR: AP5021867

$$\varphi_0^0(\mu, \tau_0) = \varphi(\mu) - 3\sqrt{\frac{1-\lambda}{3-x_1}}(1+2e^{-2k\tau_0})\mu\varphi(\mu),$$

$$\psi_0^0(\mu, \tau_0) = \mu\varphi(\mu)\, 6\sqrt{\frac{1-\lambda}{3-x_1}}e^{-k\tau_0},$$

$$\varphi_1^0(\mu, \tau_0) = \mu\varphi(\mu)\sqrt{\frac{3(1-\lambda)}{3-x_1}}(1+2e^{-2k\tau_0}),$$

$$\psi_1^0(\mu, \tau_0) = \mu\varphi(\mu)\, 2\sqrt{\frac{3(1-\lambda)}{3-x_1}}e^{-k\tau_0},$$

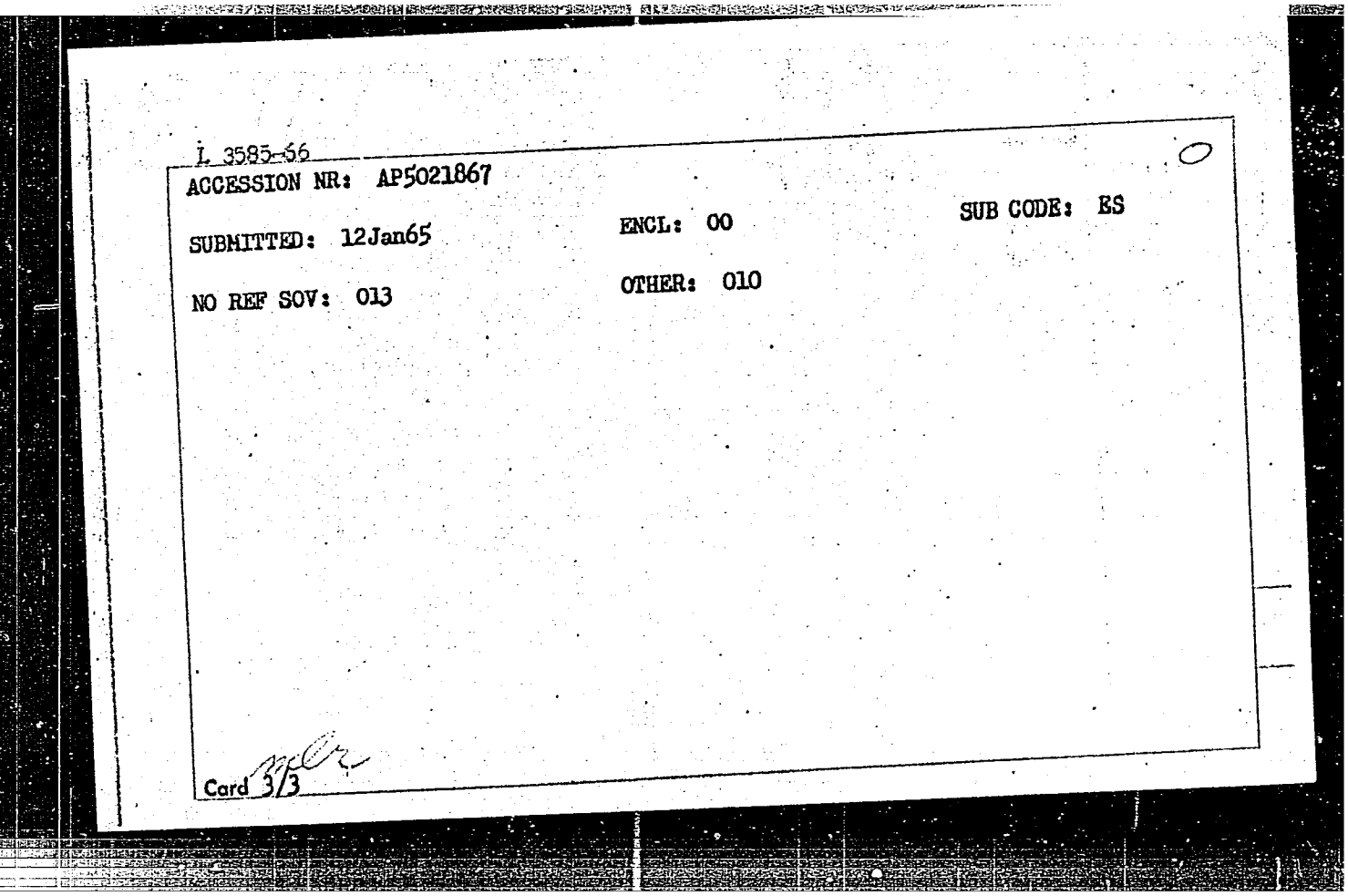
where τ is the thickness of the optical layer, μ - the cosine of the angle of emission, λ - the reflection factor, and k is given by

$$k = \sqrt{(3-x_1)(1-\lambda)}.$$

It is shown that for quasi-conservative scattering the intensity of transmitted light and the average intensity of the reflected light (averaged over the azimuthal coordinate ϕ) are represented by the ϕ - function for isotropic conservative scattering, first derived by V. A. Ambartsumyan (Nauchnyye trudy, t. 1. Izd-vo. AN ArmSSR, 1960). Orig. art. has: 51 equations.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

Card 2/3



L 3585-66

ACCESSION NR: AP5021867

SUBMITTED: 12Jan65 ENCL: 00 SUB CODE: ES

NO REF SOV: 013 OTHER: 010

Card 3/3

L 17372-66 EWT(m)/EWP(t) DIAAP/IJP(c) JD
ACC NR: AP6004508 SOURCE CODE: UR/0186/65/007/005/0629/0630

AUTHOR: Murin, A. N.; Nefedov, V. D.; Kirin, I. S.; Leonov, V. V.; Zaytsev, V. M.; Akulov, G. P.

ORG: none

51
B 19

TITLE: Formation of fluorine-containing compounds of xenon during β-radiation of I^{131} contained in iodine pentafluoride

SOURCE: Radiokhimiya, v. 7, no. 5, 1965, 629-630

TOPIC TAGS: xenon, fluorine, beta radiation, iodine, elemental halogen, fluorine compound, radioisotope

ABSTRACT: Free Xe^{131} was accumulated by bubbling helium for 8 hours at room temperature through a liquid $J^{131}F_5$. The origin of this free Xe^{131} is traced to the intermediate formation of a molecular ion $[Xe^{131}F_5]^+$. After removal of free Xe^{131}, the β-radiation material was hydrolyzed and the products of hydrolysis were subjected to reduction with various reducing agents. In the course of treatment with HCl the xenon-fluorine compounds were reduced to free xenon. No free xenon was obtained when KJ, hydroxylamine, or Fe^{2+} were used as reducing agents. It was found that

UDC: 546.295'16 : 541.28 : 546.155'161

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ACC NR: AP6004508

0

the xenon-fluorine compounds are more volatile than the starting $J^{131}F_5$.
[Editor's note: J is the Russian periodic symbol for iodine.]
SUB CODE: 07/ SUBM DATE: 28Dec64/ ORIG REF: 003/ OTH REF: 003

Card 2/2 nst

LEONOV, V.V.

Construction of a gas pipeline in the Far North. Stroi. trubo-prov. 10 no. 11:17-18 N '65. (MIRA 18:12)

LEONOV, V.V. (Leningrad)

Singular points in solutions to nonlinear differential equations. Izv. vys. ucheb. zav.; mat. no.3:85-87 '63. (MIRA 16:4)

(Differential equations)

LEONOV, V.V. (Novosibirsk)

"On calculation methods of optimum response construction".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

LEONOV, Ye.

Developing norms for the repair of equipment in the chemical industry. Sots. trud 8 no.12:109-112 D '63.
(MIRA 17:2)

LEONOV, Ye.A., inzhener (g.Leningrad); ERYGIN, A.P., tekhnik (g.Leningrad).

Large panel partitions for enclosing plumbing in residential houses. Stroi.pred.neft.prom. 2 no.5:23-25 My '57. (MIRA 10:7)
(Plumbing) (Walls)

LEONOV, Ye. A

LEONOV, Ye.A., inzh.; DRYGIN, A., inzh.

Drilling equipment for frozen soil. Stroitel' no.9:18 S '57. (MIRA 10:12)

(Drilling and boring machinery)

LEONOV, Ye.A., inzh.; DRYGIN, A.P., tekhn.

The DT-54 tractor attachment for drilling in frozen ground.
Stroi. pred. neft. prom. 3 no.1:21-22 Ja '58. (MIRA 11:3)
(Boring machinery)

LEONOV, Ye.A.

Some characteristics of the overgrowing of river channels with reference to methods used in streamflow calculations. Trudy GGI no.77:74-86 '60. (MIRA 13:5)
(Stream measurements)

LEONOV, Ye.A.

Calculating the water discharge of rivers filling with aquatic vegetation by linear interpolation. Meteor.i gidrol. no.11:43-45 N '61. (MIRA 14:10)

(Rivers)

LEONOV, Ye.A.

Stream gradient of overgrowing rivers. Meteor. i gidrol. no.6:35-38 Je '62. (MIRA 15:6)

(Hydrography)

LEONOV, Ye.Al

Evaluating the degree of reliability in calculating the monthly average runoff of overgrowing rivers. Trudy GGI no.96:76-98 '62. (MIRA 15:6)

(Runoff) (Rivers)

KOL'TSOV, V.M., gornyy inzh.; LEONOV, Ye.A., gornyy inzh.

Mining ore blocks with concrete filler (from "Rudy: Metale Niezelazne," nos. 6 and 9, 1961). Gor. zhur. no.3:66-68 Mr '63. (MIRA 16:4)

LEONOV, Ye.G., aspirant; MAKURIN, N.S.

Formation of packers in air drilling and criterion of the selection of methods for controlling them. Izv. vys. ucheb. zav.; geol i razv. 8 no.9:151-153 S '65. (MIRA 18:9)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni I.M. Gubkina.

LEONOV, Ye.G.; FINAT'YEV, Yu.P.; FILATOV, B.S.

Pressure losses in casing space. Neft. khoz. 43 no.9:12-17 S '65. (MIRA 18:10)

L 10548-66 EWT(m)/EPF(n)-2/EWA(h)

ACCESSION NR: AT5023166 UR/2892/65/000/004/0143/0146

30
31

AUTHOR: Doroshenko, G. G.; Fedorov, V. A.; Leonov, Ye. S.

TITLE: Scheme for the stabilization of the amplifying circuit of fast neutron spectrometer

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Voprosy dozimetrii i zashchity ot izluchenly, no. 4, 1965, 143-146

TOPIC TAGS: nuclear radiation spectrometer, fast neutron, thyratron, electronic amplifier, current stabilization, feedback circuit

ABSTRACT: The instability of the moment of ignition of a thyratron, as well as other factors leading to instability, associated with a change in the magnitude of the charge passing through the thyratron are compensated with a supplementary negative feedback circuit. In this case, the feedback circuit signal is read from a resistance connected in series with the thyratron. This signal repeats the shape of the light impulse, and the voltage of the peak detector at the outlet of the circuit is read subtracted from the outlet voltage of the peak detector of the main channel. To raise the efficiency of the stabilization scheme it is desirable that the magni-

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tude of the reference impulse be as large as possible. However, even with reference impulses equivalent to the impulses from the yield of protons with energies of about 15 Mev, the normal operation of the separation scheme was disrupted. This problem was solved by trial and error determinations of the amplitude and duration of the reference light signal. The article shows a diagram of the circuit. Orig. art. has; 2 figures.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: NP, EC

NR REF SOV: 006 OTHER: 000

Card 2/2 pw

L 28357-66 EPF(n)-2/EWA(h)/EWT(m) JD

ACC NR: AP6001697 SOURCE CODE: UR/0089/65/019/005/0460/0462

AUTHOR: Doroshenko, G. G.; Fedorov, V. A.; Leonov, Ye. S.

ORG: None

TITLE: Changes in fast-neutron spectrum after passages through aluminum, paraffin and water

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 460-462

TOPIC TAGS: fast neutron, neutron spectrum, nuclear shielding

ABSTRACT: An attempt was made to investigate the fast-neutron spectra in thick aluminum, paraffin and water layers. A Po - Be source was used, being placed in a paraffin collimator with a 48-degree aperture angle. The investigated 70 x 70 cm sheets of aluminum and paraffin were placed at 25 cm from the source. The thickness of the aluminum layer was 44 cm, while the paraffin layer was 45 cm thick. The water layer thickness was 40 cm. The results of experiments were illustrated by three graphs. The first graph shows the fast neutron spectra before shielding and then after passing the aluminum layer. The interaction cross-section between neutrons and aluminum nuclei is also graphically illustrated. Similar

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ACC NR: AP6001697

curves were obtained for the paraffin layer. The third set of curves shows the fast neutron behavior in water and the interaction of neutrons with oxygen nuclei. A good coincidence in five structures was obtained for spectra before and after passing the aluminum shielding. As to the paraffin layer, the spectral-line shape was determined by the interaction between neutrons and carbon nuclei. Orig. art. has: 3 graphs.

SUB CODE: 20 / SUBM DATE: 6Feb65 / ORIG REF: 009 / OTH REF: 001

Card 2/2 CC

LEONOV, Yu.A.

Fleas parasitic on rodents in Khasan District, Maritime Territory.
Tez.i dokl.konf.Irk.gos.nauch.-issl.protivochum.inst. no.1:19-20 '55.
(KHASAN DISTRICT--FLEAS) (PARASITES--RODENTIA) (MIRA 11:3)